



Issues Related to Illegal Mining of Ores

For Prelims: [Illegal mining](#), [IBM](#), [Coal](#), [Petroleum](#), [Atomic Minerals](#), [Human rights violations](#), [National Mineral Policy](#), [PMKKY](#).

For Mains: Issues of Illegal mining and ways to Combat it.

Why in News?

Recently, the **Indian Bureau of Mines (IBM)** has flagged massive corruption of illegal mining and transportation of Manganese in Odisha.

- IBM is a multi-disciplinary government organization **under the Ministry of Mines**, engaged in promotion of conservation, scientific development of mineral resources and protection of the environment in mines other than [coal](#), [petroleum & natural gas](#), [atomic minerals](#) and minor minerals.

What are IBM's Concerns?

- Odisha is a **mineral-rich State having 96.12% of the country's chrome ore, 51.15% bauxite reserve of India**, 33.61% of hematite iron ore and 43.64% of manganese.
- Mining lease holders in Odisha **were dispatching manganese ore as low-grade from their mines to the traders** operating from West Bengal, who subsequently sold it as high-grade without any processing.
- Some mining companies in Odisha are involved in under-reporting the quantity of minerals mined and transported, as well as not paying the **appropriate royalties and taxes**.
 - Such issues can have serious consequences for the environment, the economy, and the livelihoods of people who depend on natural resources for their sustenance.
- The issue of manganese ore grade reduction is significant as it may affect the **quality and value of the ore, resulting in a loss of revenue** for the state government.
- The state government should **take action against the companies involved in illegal mining and transportation of minerals**, and also called for stricter enforcement of mining laws and regulations.
 - As per **Section 23C of Mines & Minerals (Development and Regulation) (MMDR) Act**, State Governments are empowered to make rules for preventing illegal mining, transportation and storage of minerals.

What is Illegal Mining?

- **About:**
 - Illegal mining is the extraction of minerals, ores, or other valuable resources from land or water bodies **without the necessary permits, licenses, or regulatory approvals** from government authorities.
 - It can also involve the violation of environmental, labor, and safety standards.
- **Issues:**

- **Environmental Degradation:**
 - It can lead to deforestation, soil erosion, and water pollution and can result in the **destruction of habitats for wildlife**, which can have serious ecological consequences.
- **Hazards:**
 - Illegal mining often involves the **use of hazardous chemicals such as mercury and cyanide**, which can pose serious **health risks to miners** and nearby communities.
- **Loss of Revenue:**
 - It can lead to a **loss of revenue for governments** as miners may not pay appropriate taxes and royalties.
 - This can have significant economic impacts, particularly in countries where natural resources are a major source of revenue.
- **Human Rights Violations:**
 - Illegal mining can also result in [human rights violations](#), including forced labor, child labor, and exploitation of vulnerable populations.

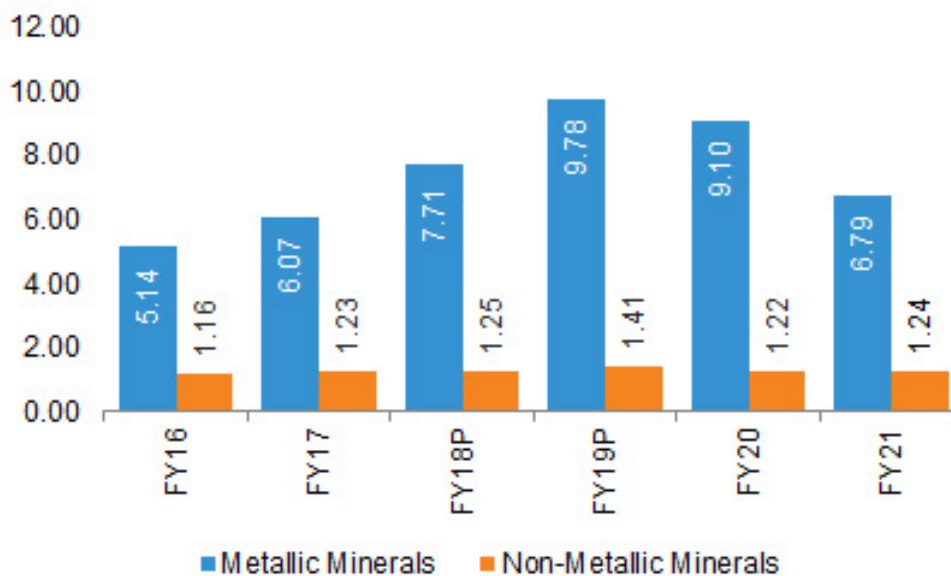
What are the Laws Related to Mining in India?

- The entry at serial **No. 23 of List II (State List) to the Constitution of India** mandates the **state government to own the minerals located within their boundaries**.
- The entry at serial **No. 54 of List I (Central List)** mandate the central government to own the minerals within the exclusive economic zone of India (EEZ).
 - In pursuance to this **Mines & Minerals (Development and Regulation) (MMDR) Act of 1957** was framed.
- **International Seabed Authority (ISA)** regulates mineral exploration and extraction of deep seabed minerals in the international seabed area that are beyond the limits of national jurisdiction.
 - It is guided by the **UN treaty and India being a party to the treaty has received an exclusive right to explore polymetallic nodules** over 75000 sq. km in **Central Indian Ocean Basin**.

What is the Scenario of the Mining Sector in India?

- **About:**
 - India has a **rich mineral resource** base, with large deposits of iron ore, coal, bauxite, Manganese, copper, gold, zinc, lead, and other minerals.
 - The mining sector is a significant contributor to the Indian economy, accounting for **around 2.5% of India's GDP (Gross Domestic Product)** and providing employment to millions of people.
- **Statistics:**
 - **Coal production** in India stood at 777.31 million tonnes (MT) in FY 2021-22 with a **growth of 8.55%**.
 - India is the world's **2nd largest coal producer** as of 2021.
 - **Mineral Production** in India in FY22 is estimated to be Rs. 190,392 crore (USD 24.95 billion).
 - India ranks **4th globally in terms of iron ore production**. Production of iron ore in FY21 stood at 204.48 MT.
 - The combined production (primary and secondary) of aluminum in India stood at 4.1 MT per annum in FY21, making it the **world's 2nd producer of aluminum**.

Production of metallic and non-metallic minerals (US\$ billion)



Some Facts About Manganese

- It is a hard, silvery-grey metal that is commonly found in the Earth's crust, and it is the **twelfth most abundant element in the crust**.
- Manganese is an essential nutrient for humans, animals, and plants. It is required for the metabolism of carbohydrates, cholesterol, and amino acids.
- Manganese is used in a wide range of industrial applications, including the production of steel, aluminum alloys, and batteries.
- **Manganese** is an important **raw material** for **smelting iron ore** and also used for manufacturing **ferro alloys**. Manganese deposits are found in almost all geological formations. However, it is mainly associated with **Dharwar system**.
- Odisha is the leading producer of **Manganese**. Major mines in Odisha are located in the central part of the **iron ore belt of India**, particularly in **Bonai, Kendujhar, Sundergarh, Gangpur, Koraput, Kalahandi and Bolangir**.

How can the Issues of Illegal Mining be Addressed?

- **Legal and Regulatory Framework:**
 - The legal and regulatory framework related to mining should be strengthened to make it **more effective in preventing illegal mining**.
 - It can be achieved by enacting **stronger laws, improving enforcement mechanisms, and increasing penalties** for illegal mining activities.
- **Monitoring and Surveillance:**
 - The use of modern technologies such as **satellite imagery, drones, and GPS can help in monitoring** and detecting illegal mining activities.
- **Collaboration between Stakeholders:**
 - Mining companies should work closely with local communities to address their concerns and ensure that their activities are sustainable.
- **Awareness and Education:**
 - Awareness and education campaigns can help in creating awareness about the harmful effects of illegal mining on the environment and society. This will encourage **people to report illegal mining activities** to the authorities.

- **Sustainable Mining Practices:**
 - Promoting sustainable mining practices can help in **reducing the demand for illegal mining.**
 - This includes encouraging mining companies to adopt sustainable practices such as responsible mineral sourcing, environmental conservation, and social responsibility.

What are Government Initiatives Related to Mining?

- **National Mineral Policy 2019:** It aims to **increase mineral exploration and production, promote sustainable** mining practices, and streamline regulatory processes.
- **Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY):** It is a welfare scheme for mining-affected areas, and the Sagarmala project, which aims to develop port infrastructure to support the growth of the mining sector.

Conclusion

- Addressing the issue of illegal mining requires a multi-pronged approach that involves strengthening the legal and regulatory framework, improving monitoring and surveillance, promoting sustainable mining practices, and creating awareness and education campaigns.

UPSC Civil Services Examination Previous Year Question (PYQ)

Mains

Q. Despite India being one of the countries of Gondwanaland, its mining industry contributes much less to its Gross Domestic Product (GDP) in percentage. Discuss. **(2021)**

Q. “In spite of adverse environmental impact, coal mining is still inevitable for development”. Discuss. **(2017)**

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